

February 2009

[KU 703]

Sub. Code: 4163

**FIRST B.PHARM. DEGREE EXAMINATION**  
**(ReRevised Regulations)**  
**(Candidates admitted up to 2003-04 onwards)**  
**Paper III – PHARMACEUTICAL PHYSICAL CHEMISTRY**  
***Q.P. Code : 564163***

**Time : Three hours**

**Maximum : 90 marks**

**I. Essay Questions : Answer any TWO questions (2 x 20 = 40)**

1. a) State and explain distribution law. (10)  
b) Discuss the important applications of distribution law. (5)  
c) Explain Henry's law – a form of distribution law. (5)
2. a) What are catalysts? Explain its types. (5)  
b) Elaborately describe the theories of catalysis. (10)  
c) Discuss the applications of catalysis. (5)
3. Define the term colligative properties with example. Discuss the methods of determination of molecular weight using lowering of vapour pressure, elevation of boiling point and depression of freezing point. (20)

**II. Write Short Notes : Answer any EIGHT questions (8 x 5 = 40)**

1. Explain Hess's law of constant heat of summation.
2. Describe Faraday's laws of electrolysis.
3. Explain Kohlrausch law and its applications.
4. What is common ion effect? How does common ion effect influence the solubility and solubility product?
5. Define surface tension. Describe how it is determined by Stalagmometer.
6. What is adsorption? Discuss its application.
7. Write in detail about Bomb calorimeter used for the determination of heat of reaction.
8. Explain energy of activation.
9. Write the theory of steam distillation.
10. Explain energy of activation.

**III. Short Answers: Answer any FIVE questions (5 x 2 = 10)**

1. State Raoult's law.
2. Define law of mass action.
3. Define specific conductance.
4. Define heat of neutralization.
5. State Le-Chatelier's principle.
6. Define optical activity.
7. What is parachor?

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